

From: "Gauntt, Randall O" <rogaunt@sandia.gov>
To: "Jason Schaperow" <JHS1@nrc.gov>
Date: Fri, Jan 28, 2000 11:45 AM
Subject: RE: Cladding behavior under steam and air conditions

Got your message Jason.
I'll look into my resources and get back to you soon.
Glad to be of help.
Randy

-----Original Message-----

From: Jason Schaperow [mailto:JHS1@nrc.gov]
Sent: January 28, 2000 8:17 AM
To: rogaunt@sandia.gov
Cc: AXB@nrc.gov; CGT@nrc.gov
Subject: Cladding behavior under steam and air conditions

Randy,

We are assisting NRR in the analysis of spent fuel pool accidents. One of the issues concerns temperatures for clad rupture (for a low pressure sequence) and for rapid oxidation under steam and air conditions. Charles Tinkler suggested I get your input on this issue.

For steam conditions, Figure 3.1-1 of Perspectives on Reactor Safety, NUREG/CR-6042, Rev. 1, November 1997, shows a temperature range of 700 C to 1000 C for rupture and a temperature range of 1000 C to 1400 C for rapid oxidation. What temperature do we use in MELCOR for clad rupture (for a low pressure sequence) under steam conditions? In MELCOR calculations, at what temperature does rapid oxidation begin under steam conditions?

From speaking with Lawrence Dickson, I understand that the QUENCH tests address both steam and air conditions. Are the temperatures for clad rupture and for rapid oxidation significantly different for air conditions than for steam conditions?

Thanks for your help.
Sincerely,
Jason

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CC: "AXB@nrc.gov" <AXB@nrc.gov>, "CGT@nrc.gov" <CG...

F114